PROPERTY OF
THE NATIONAL ASSOCIATION OF COST ACCOUNTANTS
NEW YORK CITY

N. A. C. A. BULLETIN

Vol. XX, No. 4 October 15, 1938

IN TWO SECTIONS

Section I

N.A.C.A. LIBRARY

IN THIS ISSUE

The Accountant's Responsibility in Fire and Prospective Earnings Insurance, by Carl G. Richmond..... 209

Time-Saving Requisition Forms, by Clinton J. Norris..... 226

This Bulletin is published semi-monthly by the National Association of Cost Accountants, 385 Madison Avenue, New York. Subscription price, $10.00 per year. Entered at the Post Office, New York, N. Y., as second-class matter August 28, 1925, under the Act of March 3, 1879.

EDITORIAL DEPARTMENT NOTE

No doubt some of our New England members have had recent experience in the figuring of losses under use and occupancy insurance contracts as a result of the damage done by the recent hurricane. But we hazard the opinion that the majority of accountants have not only had no occasion to figure losses under this type of insurance policy but have little knowledge of how such losses are to be calculated even though the determination of losses is almost wholly a matter of cost accounting. Use and occupancy or prospective earnings insurance is relatively new and not yet well understood by many who should be more familiar with it.

Our first article will provide some basic information on this subject as well as on the accountant's opportunities in connection with fire insurance. The author is Carl G. Richmond, who received his degree in Civil Engineering from the Massachusetts Institute of Technology in 1911, after which he served as Resident Engineer of the State of Massachusetts for three years and as Superintendent of Public Works of Revere, Mass. for another three years. Following service in France during the War as First Lieutenant of Engineers in the 602nd and 605th Engineers, Mr. Richmond received training as a regular inspector of the Associated Factory Mutual Fire Insurance Companies, and was appointed Engineer for the Arkwright Mutual Fire Insurance Company. He later changed to his present position as District Engineer for the Factory Mutual Company.

Our second article is of the "how-we-do-it" type and describes a time-saving requisition form that may be found helpful by many of our members. The author of this article is Clinton J. Norris, Chief Cost Accountant, Intertype Corporation, Brooklyn, N. Y., who is a native of New York City. Mr. Norris has been interested in accounting since leaving high school. A two-year course with La Salle Institute and two years at Fordham University laid the foundation for his future accounting activities. His first positions were with the First National Bank of New York, the General Optical Co. and other manufacturing companies. For the past seventeen years he has been with the Intertype Corporation, advancing from one position to another until he became the Chief Cost Accountant several years ago.

COPYRIGHTED BY THE
NATIONAL ASSCCIATION OF
COST ACCOUNTANTS

OCTOBER 15, 1938

THE ACCOUNTANT'S RESPONSIBILITY IN FIRE AND PROSPECTIVE EARNINGS INSURANCE

By Carl G. Richmond, District Engineer,
Factory Mutual Fire Insurance Co., Buffalo, N. Y.

A LIST of the responsibilities placed on the shoulders of the accountant would be long and formidable. The subject for discussion here is in the limited field of responsibility in connection with property insurance.

In my own line of work there are many individuals performing their daily task with such reasonable thoroughness that they escape criticism, yet fail pitiably to rise above the mediocre average. Others less satisfied to merely perform the specific necessary detail of their tasks, become conscious of and make it their business to study the supplementary or accessory subjects met with in their work. Such study adds to the enjoyment of their work. It converts drudgery into pleasure and frequently has the secondary benefit of increased value to their employer with resulting advancement. I have no doubt but that the same is true in the profession of accounting.

Value to Accountant of Knowledge of Related Fields

I have in mind one particular public accountant in Indianapolis. When starting in his profession, he applied himself solely to the ascertaining of facts in connection with the books or business being audited. Accuracy in facts was a prime essential. In the course of his work, he began to understand what the figures were all about. Working as an auditor with various manufacturing concerns, he recalled that at two similar plants, one was paying an appreciable higher price per ton for their coal than another. In making his report to the plant paying the higher price, he called attention to the item of coal price as offering a fertile field for investigation based on his experience. The owner investigated, found that he was paying too high a price for coal, revised his contracts and very likely failed to thank the accountant. We can well imagine, however, that the accountant was secure in the continuation of his employment.

This same accountant soon after noted that there was a wide spread in the fire insurance rate and cost between two very similar plants making a similar product, and for anything he could see, entitled to substantially the same insurance cost and coverage. He noted too in this actual case that the company having the lower insurance cost had included in its insurance coverage a number of hazards against which the higher rated plant did not have protection. If he had thought that fire insurance rates were fixed by the State and were inflexible, he soon found that insurance costs were little different from coal costs, and that the best was often the least expensive.

In this case the accountant did not tell the higher rated plant the rate that was being paid by the lower rated plant, but he did point out in his report to the former that there was reason to believe that their whole fire insurance position could be investigated with resulting advantage. Today the lower cost and broader coverage insurance company handles the fire insurance and related lines for both plants at the same rate and with the same coverage. You may argue, as you will, as to whether or not the accountant should have made this matter of insurance his business. He would not have been criticized by the higher rated plant if he had not called attention to the matter of insurance cost and coverage, but had merely checked the accuracy of all of the figures. It is a fact, however, that the owner is thoroughly sold on the value of this particular accountant's services to him. The insurance saving alone more than paid the accountant's fee, and the accountant secured assurance of continued employment, and what was really better, the enjoyment of his profession and the satisfaction of work well done.

From that beginning, that accountant has extended his work and his organization to cover a large field throughout the southern states. He has repeatedly referred back to the fire insurance experience which I have related, and now has many testimonials to the savings he has effected at many manufacturing properties in matters entirely apart from the main purpose of his employment.

All accountants, public and private, come into contact with property insurance in the course of their work. Some doubtless merely check the accuracy of the figures and the computations. Some may question the amount, others the rate, while still others will investigate the detail of the policy contract. If there is a question as

to the extent of the accountant's responsibility, then my answer is that the extent is limited only by the capacity of the accountant to understand property insurance. There is more to learn and to understand than most men devoting their entire life to the subject can absorb. But there are certain essential features of which every accountant should have a thoroughgoing understanding. Among these let us briefly consider the following:

1. A knowledge of the "Standard Form."
2. Checking of the policy coverage.
3. Understanding the coinsurance clause and checking the amount of insurance.
4. Understanding the purpose of use and occupancy or prospective earnings insurance.
5. Computation of the insurable prospective earnings value.

1. *Knowledge of the "Standard Form"*

The responsibility of the accountant for having a knowledge of "Standard Forms" may involve the standard form of one state or of many states. Massachusetts was the first state to regulate the writing of the fire insurance policy. The form of policy which Massachusetts prescribed in 1873 remains but little changed today. A few years later an attorney in Buffalo "nearly ruined his eyes and his temper" trying to decipher the fine print clauses and secure a proper settlement of a fire insurance loss on the Buffalo Y.M.C.A. He was a state senator, and in the legislature he proceeded to do something about it. An interesting lobbying and legislative battle followed, resulting in the adoption of the New York State Standard Form of fire insurance policy in 1887.

When earthquake and fire caused enormous loss in San Francisco in 1906, there was no standard form of fire insurance policy prescribed by California. This added greatly to the difficulty and permitted certain insurance companies to flatly deny their liability. Much progress has been made since, and many states now follow the form prescribed by New York State, and several others depart but slightly from the New York Standard Form.

Every fire insurance policy issued by a licensed company in New York State has precisely the same printed language in the main form, and the whole setup must have secured the approval of the insurance commissioner of the state of New York. It is a definite

responsibility of every accountant to become familiar with the language of the New York State Standard Form. If you have not read it at least ten times, it is probable that you need to read it again. You will find it in every fire insurance policy that you are likely to run across in this state. There are about 200 lines, and all are numbered. Among the essential features that you should know and understand are lines 7 to 11 which read:

> *This policy shall not cover* accounts, bills, currency, deeds, evidences of debt, money, notes or securities; nor, unless specifically named hereon in writing, bullion, manuscripts, *mechanical drawings, dies or patterns.*

Of similar importance are lines 12 to 16 which read:

> This company (i. e. the Insurance Company) shall not be liable for loss or damage caused directly or indirectly by invasion, insurrection, *riot,* civil war or *commotion,* or military or *usurped power,* or by order of any civil authority; or by theft;—

Some of these items are well understood, such as invasion and theft, but in the last year or two, considerable question has developed as to the meaning of the words "insurrection," "riot," "civil commotion" and "usurped power." It is not the responsibility of the accountant at the present time to know whether the expression "usurped power" means a sit-down strike or not, but it may be the responsibility of the accountant to know that he does not know. There may be a question as to whether anyone knows.

Another important provision of the Standard Form that every accountant should be familiar with is contained in lines 20 to 31 which read in part as follows:

> *This entire policy shall be void, unless otherwise provided by agreement in writing added hereto,* (a) if the interest of the insured be other than unconditional and sole ownership; or (b) if the subject of insurance be a building on ground not owned by the insured in fee simple; or (c) if, with knowledge of the insured, foreclosure proceedings be commenced or notice given of sale of any property insured hereunder by reason of any mortgage or trust deed; or (d) if any change, other than by the death of an insured, take place in the interest, title or possesssion of the subject of insurance (except change of occupants without increase of hazard); or (e) if this policy be assigned before a loss.

Other important features that should be within the knowledge and understanding the accountant is included in line 32 and the following, where we find this language:

> *Unless otherwise provided by agreement in writing added hereto,* this company shall not be liable for loss or damage occurring (a) while the insured shall have *any other contract of insurance,* whether valid

> or not, on property covered in whole or in part by this policy;—(f) while a described building, whether intended for occupancy by owner or tenant, is vacant or *unoccupied beyond a period of ten days;* or (g) by *explosion* or *lightning,* unless fire ensued, and, in that event, for loss damage *by fire only.*

In lines 68 to 71 we read:

> If a building, or any material part thereof, fall except as the result of fire, all insurance by this policy on such building or its contents shall immediately cease.

These are some of the more important items that are in every fire insurance policy approved by the insurance department in New York State, and because they are in every policy, every accountant should have some familiarity with them and make the necessary checks of added clauses permitted by the language: "Unless otherwise provided by agreement in writing added hereto."

2. Checking of the Policy Coverage

With a knowledge of the standard policy forms, the accountant is prepared to check the policy coverage. He should ascertain that the title of the insured is correctly stated and that the description of the property covered is complete and accurate, and that no building or other item which is intended to be covered is left out. If it is intended to insure mechanical drawings, dies, or patterns and certain other items noted in the standard form, the accountant should check that language is used to include these in the coverage.

The accountant will usually know whether or not the interest of the insured party is unconditional and sole ownership, and if it is not, he should check that there is information in the added language which takes care of the situation. The accountant will know about changes in ownership or title, such as a mortgage or a foreclosure, and in connection with these, he should keep in mind the effect on the insurance.

Another responsibility of the accountant is to appreciate the advisability, if not the absolute necessity, of having all policies concurrent, that is, written in precisely the same language as far as the important elements are concerned.

It is now possible to write into a standard fire insurance policy, insurance against a considerable number of other hazards which were formerly insured under separate policies. Among such items are insurance against lightning, sprinkler leakage, wind, hail, explosion, smoke, vehicles and the elimination of the statement in

the standard form that the policy does not cover loss or damage caused by riot or by civil commotion. Until quite recently, nearly all fire insurance policies became null and void if destruction by fire was caused by rioting. The theory was that an owner should bring suit against the local public authorities to recover a loss by fire occasioned during riot, based on the grounds that the local government had not furnished a sufficient amount of police protection to prevent the riot.

About eight years ago, I was sent to discuss this subject with the treasurer of a large manufacturing company in a southern city, who had approximately $80,000,000 of fire insurance on his property. He came to realize that if his property was destroyed by fire during a riot, he could recover only by collecting from the city. As it happened, his company paid by far the major portion of the taxes in that city, with the result that there was no hope of recovery of a fire loss resulting from a riot. This case led to the riot and civil commotion clause covering fire, water and explosion, that was adopted by the Factory Mutual Companies May 5, 1931 and by the stock companies on May 18, 1931.

There is no limit to the expense to which an accountant can go in considering and checking items of supplemental coverage. Frequently, they can be secured without additional cost above the fire insurance, or, in the case of the larger and better protected properties, they can be secured through competition. All too often, they are simply omitted through lack of information or broad experience of the policy writer.

3. *Understanding the Coinsurance Clause and Checking the Amount of Insurance*

It seems to go without saying that it is an essential responsibility of every accountant to thoroughly understand the meaning, use and operation of the coinsurance clause or any of the substitutes therefor. This clause is very commonly met with and is usually found in large fire insurance policies unless there has been competition for the insurance, actual or threatened.

The insured party is the client or employer of the accountant and the accountant is obligated to serve his interest. Since in loss settlement, the coinsurance clause, if there be one, never comes into play except to the disadvantage and detriment of the insured

party, it is important that the accountant should thoroughly understand this simple but frequently misunderstood clause.

Recently, I called the attention of an executive officer of a plant to the coinsurance clause in his existing policy. It was my opinion that he was at times under-insured to the extent of about a million dollars, and there is a 90 per cent coinsurance clause in his policy. Although he is in charge of the insurance at that plant, I found that he had a fantastic and erroneous idea of the actual operation of the coinsurance clause. He was confident in his security, but he was signed up for trouble if there had been a fire loss exceeding $20,000, and with no great stretch of the imagination, he could suffer a loss of a million dollars or more.

How does the coinsurance clause work? An actual case is better than a hypothetical one. Recently, I was permitted to look over a certain piece of property for insurance. The construction was noncombustible throughout. It was sprinklered in part. When I completed my investigation, the manager called in his principal assistant and his office manager for a conference with me. He was honestly astonished and a little disgusted when I declined the risk at any rate and stated that I was in actual fear of my life in his beautiful plant. He told me there had been no loss in all the years he had been there, and he was right. He was interested in what I had to say, however, and wanted me to give him a written report on the hazards of his plant and means of safeguarding them. I told him that as my company would not insure his plant in any case, I could not furnish the report without payment. The report was made, and he paid my company $100. A month later he told me that it was the best use of $100 he had ever made, as it opened his eyes and pointed out to him for the first time the hazards he had lived with for twenty years, and their proper safeguarding. He went about correcting some difficulties, but five months later and all within the space of five minutes he had a loss in excess of $100,000.

I went in to see him, although my company had no policies on his plant. He wanted me to go over his insurance contracts for friendly advice. The insurance on the principal damaged building totalled $240,000. There was an 80 per cent coinsurance clause in all policies. A reliable appraisal made when the insurance amount was determined three years ago showed an insurable

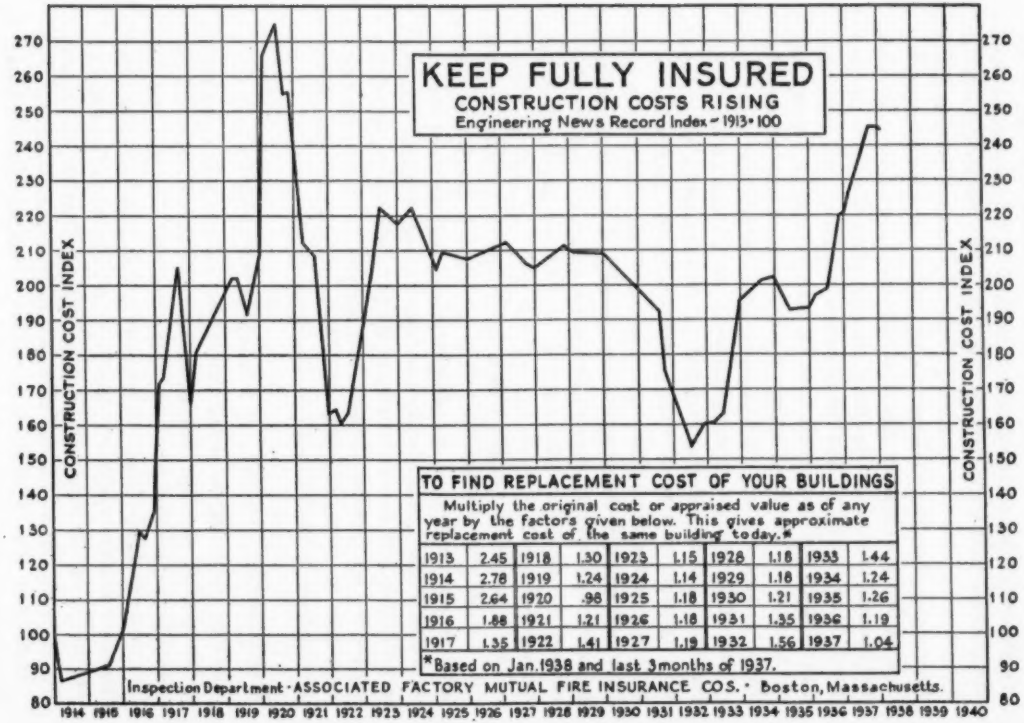
value at that time of $300,000 for the building. I told him I feared he was stuck a little. He remonstrated—how could he possibly be when he had paid for an appraisal expressly to determine the amount of $240,000 insurance which was exactly 80 per cent of the amount showed by the appraisal. I told him to hope for the best, to sit tight, and not to raise the question until the adjuster brought it to him—and the adjuster did. An appraisal was demanded by the adjusters, and the sound value of the building on the day of the loss was fixed at $345,000. His 80 per cent coinsurance clause, therefore, obligated him to carry insurance for 80 per cent of the value, or $276,000. Having but $240,000 insurance, the loss was settled exactly as though he had issued a policy to himself for $36,000. On this basis, his insurance companies paid him that portion of his $100,000 loss that $240,000 was of $276,000, or a total payment of $86,956.20, and the remaining $13,100 came out of the owner as an uninsured loss. (These round number figures are close to the actual figures of this actual recent case, but the round numbers permit easier grasp of the principle involved).

For further illustration, let us consider a little more complicated case. Suppose a certain property has an insurable value of $100,000 on the day of a loss, and the owner has four policies of $20,000 each, with insurance companies A, B, C and D. Company A's policy has an 80 per cent coinsurance clause, Company B's a 90 per cent clause, Company C's a 100 per cent clause, and Company D's policy has no coinsurance clause. If the owner suffers a loss of $36,000, how much will each insurance company pay the owner under its policy?

A will pay $9,000, B $8,000, C $7,200, and D $9,000. The total payment will be $33,200 and the owner will stand $1,800 of the loss himself.

The importance of knowing insurable values, particularly when there is a coinsurance clause, must be apparent, especially if full coverage by insurance is contemplated as is generally the case. Whose responsibility is the keeping track of insurable values? It is obviously up to the accountant.

Fluctuations in the cost of building has changed insurable values to a considerable extent as may be illustrated in the graph of the *Engineering News-Record* Construction Index on page 217.


KEEP FULLY INSURED
CONSTRUCTION COSTS RISING
Engineering News Record Index - 1913 = 100
CONSTRUCTION COST INDEX
CONSTRUCTION COST INDEX
270 260 250 240 230 220 210 200 190 180 170 160 150 140 130 120 110 100 90 80
1914 1915 1916 1917 1918 1919 1920 1921 1922 1923 1924 1925 1926 1927 1928 1929 1930 1931 1932 1933 1934 1935 1936 1937 1938 1939 1940
TO FIND REPLACEMENT COST OF YOUR BUILDINGS
Multiply the original cost or appraised value as of any year by the factors given below. This gives approximate replacement cost of the same building today.*
1913 2.45 1918 1.30 1923 1.15 1928 1.18 1933 1.44
1914 2.78 1919 1.24 1924 1.14 1929 1.18 1934 1.24
1915 2.64 1920 .98 1925 1.18 1930 1.21 1935 1.26
1916 1.88 1921 1.21 1926 1.18 1931 1.35 1936 1.19
1917 1.35 1922 1.41 1927 1.19 1932 1.56 1937 1.04
*Based on Jan. 1938 and last 3 months of 1937.
Inspection Department · ASSOCIATED FACTORY MUTUAL FIRE INSURANCE COS. · Boston, Massachusetts.

This index of construction cost is published monthly by the *Engineering News-Record* and is arrived at by the use of four components which are repriced monthly. The index figure is the summation of the cost of 2,500 pounds of structural steel at Pittsburgh plus the cost of 6 barrels of cement at Chicago plus the cost of 600 feet board measure of lumber at New York City plus the average cost of 200 hours of common labor in twenty cities of the United States. The present index based on 100 for 1913 is 243. As construction costs vary in various cities, a factor must be applied to the *Engineering News-Record* Construction Cost Index to secure a figure applicable to local conditions.

The table at the lower right shows the factors by which the building cost or value ascertained at some previous time, must be multiplied, to arrive at today's replacement cost (without allowance for depreciation that may have taken place since). If you have not followed construction costs closely, it may be surprising to note that building construction costs today are less than the average for the year 1920, but over 50 per cent greater than the average for 1932.

There are many similar comparative figures for construction cost available to accountants. In preparing this graph and table with our chief appraiser, we had plotted and superimposed the construction indexes furnished by ten separate organizations. It was surprising to note the uniformity of the proportional change. During the last six months, the several graphs varied from each other somewhat more than in the past, due no doubt to the current difference in bid and asked prices of general contractors.

Illustrations of Need for Use and Occupancy Insurance

Before discussing in detail the subject of use and occupancy, or prospective earnings insurance, I would like to relate a few cases where its value has been demonstrated. The plant of the International Fiber Board Company at Midland, Ontario, was destroyed because sprinkler pipes were obstructed. The fire loss was $215,000. It required six months to rebuild the plant, and they collected $41,000 under their use and occupancy policy.

In another case the boiler house of the Champion Coated Paper Company at Hamilton, Ontario, was sprinklered, but to avoid possibility of damage from freezing, the sprinklers had been shut off

under the boiler house roof. A fire, thought possibly to have started from a short circuit in electric wiring, ignited the dust-covered planks of the roof. Unchecked by sprinklers, the fire gained headway very rapidly.

Fearing the roof would collapse and break the steam header, the mill men extinguished the boiler fires by spraying small hose streams into the fire boxes of the ten large boilers. This damaged the boiler settings so seriously that the mill had to be shut down because of lack of power. After 29 hours, arrangements were completed to obtain power from outside, and the mill resumed operation. The boilers were so seriously damaged that 27 days were required to make repairs which towards the end were rushed by shifts of special boiler men working day and night. In addition to the serious physical damage, the forced shut-down of this large mill which had been operating continuously, the difference in cost between outside power and mill power over nearly a month, and overtime charges for rushing the boiler work, entailed a further use and occupancy loss which was almost double the actual fire damage. The loss by fire was about $100,000. The use and occupancy loss was about $180,000.

Consider next the case of Snead & Company of Jersey City. Sheet metal dipped in varlonene-thinned Japan was placed in a box oven which was ventilated by natural draft. When the mixture of vapor and air in the oven reached nearly ideal proportions, it was ignited by the surplus heat of the burner boxes. A violent explosion completely demolished the oven and an adjoining one, but the main force of the explosion was vented outside of the building. Serious structural damage would have resulted if the ovens had been located inside of the building rather than in a lean-to on the outside. The equivalent of twelve full days' production was interrupted, and more than half the loss was paid under the use and occupancy policies. The fire loss was approximately $13,000 and the use and occupancy loss $15,000.

It would be easy to go on indefinitely with cases of this sort, showing the unexpected and unpredictable losses by fire with large additional losses of anticipated earnings. Let us now consider loss from another cause. This time from wind.

In April, 1936, an unusual storm swept all the way across from Tupelo, Miss., through Alabama, Georgia, South Carolina to

Greensboro, North Carolina. Such storms usually spend their force in open country, but this storm hit an unusual number of residential and manufacturing areas. At the plant of the Pacolet Manufacturing Company at New Holland, Georgia, an assistant overseer of spinning saw the storm coming and recalled a destructive tornado which he had passed through thirty-three years before. With memory of that storm still fresh in his mind, he shouted warnings for everyone to get into the lower floors on the north side of the building. His excellent foresight and prompt action enabled everyone to get safely below just as the storm struck this mill. One end section was completely demolished. The storm lifted the entire plank or timber roof, demolishing the third story walls, wrecking the sprinkler, lighting and heating equipment and doing other damage that you can well imagine. The anchors at the eaves resisted lifting sufficiently, so that the top floor wall was pulled inward. The wind carried away part of the roof deck, while the remainder dropped on to the spinning room machinery, damaging it badly. Twenty of the spinning frames on the top floor slid out on the ground. Heavy rains following the storm poured down on cloth, machinery and equipment in the unroofed building.

At this plant forty extra watchmen equipped with extinguishers were placed on duty throughout the buildings and yards. It was but a matter of minutes before sprinkler men in Atlanta left with a truck load of fittings to repair the sprinkler system at this plant. Extra tarpaulins were rushed from every direction, and the work of reconstruction was energetically pushed before the storm had subsided. The loss by wind was about $600,000, and the use and occupancy loss was $133,000.

Understanding the Purpose of Use and Occupancy or Prospective Earnings Insurance

Use and occupancy insurance is carried by a majority of manufacturing plants and by many others. It will surprise some to learn how recently this form of insurance was inaugurated.

The first abortive attempt at use and occupancy insurance appears to have been made in London by the Beacon Fire Insurance Company between 1821 and 1827 when they issued policies for "the insurance of rent during the rebuilding of the premises" and

"the insurance of weekly allowance to tradesmen and others during the period they are deprived, by fire, of the means of pursuing their usual vocations."

Chômage insurance was available in France after 1860, but this type does not appear to have been written in other countries. *Chômage* is a French word meaning "enforced idleness," and the insurance furnished was intended to provide protection for workmen's wages, where these would ordinarily be cut off because of fire. The rates and other detail were not founded on sound practice, and the insurance does not appear to have been successful.

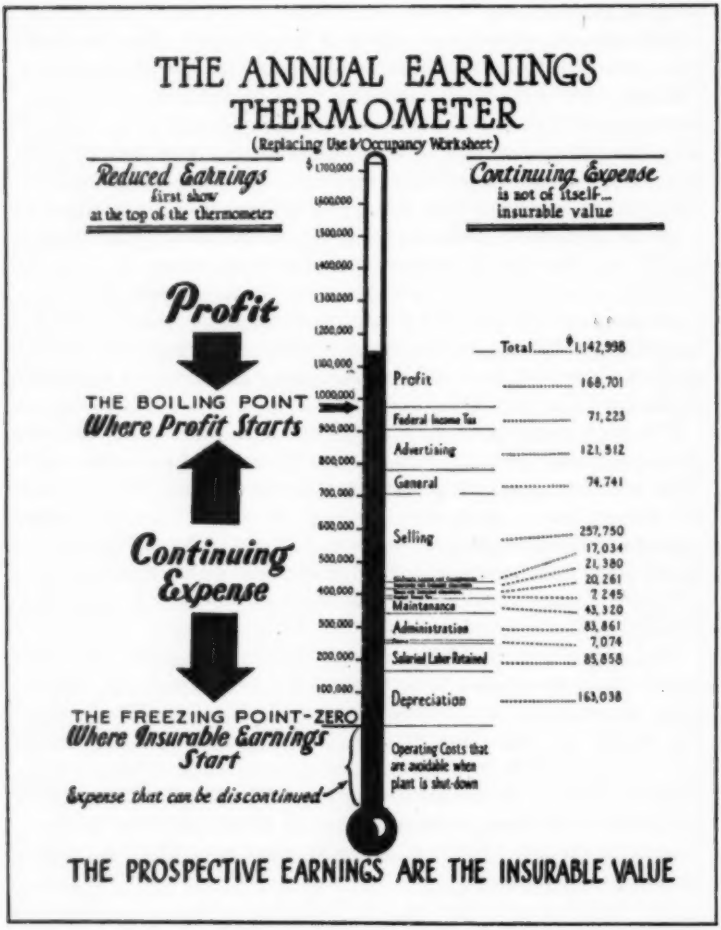
About sixty years ago, a period within the memory of many now living, the first successful form of use and occupancy insurance as we know it today was introduced in New England. *The Spectator,* one of the best known and oldest of the insurance magazine publications, in its issue of May 1880, page 187, gave credit for the origin of use and occupancy insurance to Edward Atkinson.

There are many interesting things that could be told about the development of use and occupancy insurance between 1880 and 1890, but time does not permit here, and it is somewhat outside the subject under discussion. It may be stated, however, that important development took place about 1905 and again in 1921. Then, about eight years ago, further changes with a great multiplicity of forms on which use and occupancy insurance could be written, were developed.

The purpose of use and occupancy insurance must be apparent to you from the cases I have cited. Take, for example, the large plant at which the boiler house only was destroyed. The entire mill had to be shut down from lack of heat and power. There was a considerable loss beyond the damage done to the boiler house by reason of the continuing overhead charges which were prevented from being earned by use of the employees and machinery in the main mill. In addition, there were lost customers as well as lost profits.

Computation of the Insurable Prospective Earnings Value

In the chart on page 222 is shown a thermometer which you can imagine to have been in the mouth of an actual manufacturing plant the required amount of time. There have been recorded cer-


THE ANNUAL EARNINGS THERMOMETER
(Replacing Use & Occupancy Worksheet)
Reduced Earnings first show at the top of the thermometer
Continuing Expense is not of itself... insurable value
Profit
THE BOILING POINT
Where Profit Starts
Continuing Expense
THE FREEZING POINT-ZERO
Where Insurable Earnings Start
Expense that can be discontinued
$1,700,000
1,600,000
1,500,000
1,400,000
1,300,000
1,200,000
1,100,000
1,000,000
900,000
800,000
700,000
600,000
500,000
400,000
300,000
200,000
100,000
Total $1,142,998
Profit 168,701
Federal Income Tax 71,223
Advertising 121,512
General 74,741
Selling 257,750
17,034
21,380
20,261
7,245
Maintenance 43,320
Administration 83,861
7,074
Salaried Labor Retained 85,858
Depreciation 163,038
Operating Costs that are avoidable when plant is shut-down
THE PROSPECTIVE EARNINGS ARE THE INSURABLE VALUE

tain measurements of this particular plant. The figures happen to be not round number guesses made in advance, but the actual earnings and expenses of a particular case.

In running this plant there are a number of expenses, such as labor at an hourly rate, the cost of water, and perhaps the cost of electric lighting, which expenses will be absolutely stopped if the plant is shut down for any considerable period. These expenses show on this thermometer at below zero, which is marked as the freezing point.

This thermometer is like a centigrade thermometer, in that the freezing point is zero. The boiling point varies and a separate thermometer is needed for every manufacturing plant. Water freezes at zero degrees centigrade and boils at 100°. Sulphur boils at 445°, and zinc boils at 907°. In this sort of thermometer, all plants freeze at zero. Each has a different boiling point as you will see, and the latent heat of evaporation is the Federal income tax. As this plant goes to work and the earnings temperature rises, the business earns enough to pay the capital stock tax. It must soon earn enough money to pay for the depreciation and the salaries of the executives and key men, and so on up until the earnings become sufficient to pay the so-called overhead and fixed charges.

When the thermometer reaches the boiling point, and the earnings are enough to generate steam and the pot begins to boil, the thermometer registers in the happy hunting ground of *profit*. The figure shows how the thermometer actually looks when applied to this actual plant at a particular time. The plant was earning over and above the avoidable expenses of a continued shut-down at the rate of $1,142,998 per year. The point is that the thermometer has measured the earning value of the plant and has recorded the extent of the insurable risk of the plant being shut down by fire or other casualty.

If the earnings increase, the thermometer goes up; if the earnings decrease, the thermometer goes down. If the temperature on this earnings thermometer drops down below the boiling point, it still records the earnings of the plant, and I think you can readily see that when the reading is below the boiling point the difference in reading of the recorded temperature and boiling point is not insurable value. It is already lost, and that amount of

money represented between the freezing point and the recorded amount of annual earnings is the insurable value. It is the *prospective earnings* of a manufacturing property, against the loss of which through such hazards as fire, wind and explosion, the owner may properly wish to insure himself.

No matter how high or low this thermometer goes, it measures the earnings over and above avoidable expense. If the thermometer rises well above the boiling point, it still measures earnings. Whenever there is a decrease in earnings from any cause whatever, it shows at the top of the thermometer, and regardless of any policy language, increase or decrease of the thermometer reading represents a gain or loss in annual earnings which are the insurable earnings.

As far as the item which the maufacturer needs to have insured is concerned, it makes no difference where the boiling point is located. For example, assume two identical manufacturing properties making the same product at identically the same cost and selling price. If one of these plants pays the general manager $10,000 a year more than the other, then the one paying the higher salary to the general manager will show up with $10,000 less profit and $10,000 more fixed charges and overhead. The boiling point has changed, but the thermometer still reads the same and both plants require identical earnings insurance.

Owing to the unfortunate expression "Use and Occupancy" which developed in 1879 and 1880, we are afflicted with a term which does not clearly indicate the coverage that is included. What we are actually doing today under the term "Use and Occupancy Insurance" is insuring *prospective earnings,* and many insurance men are hopeful that there will be a substitution in the title and policy language of some such more descriptive title. I have used the term *prospective earnings* becaues it comes nearer to indicating the coverage that is furnished and needed to cover those losses which lie beyond the payment of the actual cash value of destroyed property.

In arriving at rates for the insuring of prospective earnings or use and occupancy, it has become necessary to arrive at rates through consideration of the prospective earnings over some uniformly accepted period of time, and that period of time is generally accepted as one year, since accountants most frequently have

figures available or obtainable on that basis. The period is sufficient to smooth out irregularities and give a convenient common basis of computation. In fire insurance, it is always possible to use up the entire amount of insurance, but with use and occupancy insurance, this is not true in the same sense, for some destroyed properties, even in extreme conditions, could unquestionably be re-established on an earning basis in very much less time than an entire year. In arriving at the amount of use and occupancy, however, a period of time must be selected that corresponds to the rate basis, and that basis is in general the earnings of a period of one year.

After the writing of fire insurance for 250 years or more, the forms have settled down to a comparatively few standards. Use and occupancy insurance, however, has in no case been written for a longer period than sixty years, and has had its principal development since the World War, and more particularly since 1930. The forms available are many and varied. The problem in connection with them appears at the present time to be more the problem of the insurance buyer than of the accountant. The accountant should interest himself in these forms, and in many cases it will be essential for him to do so in order to compute or check the correct amounts in accordance with the language of the policy form. This subject opens up so wide a field that time does not permit adequate discussion in this paper.

At the outset of this discussion, I indicated that a list of responsibilities of the accountant would be long and formidable. The way in which use and occupancy insurance is developing today with its multiplicity of forms and methods results in a constantly and rapidly increasing number of additional items being added to the accountants' responsibilities. They are exceedingly interesting, and the accountant who enjoys his work as I do mine may look forward to an unlimited field for the development of his ability and value to his employer in connection with this engrossing branch of the accountant's work.

TIME-SAVING REQUISITION FORMS

By Clinton J. Norris, Chief Cost Accountant
Intertype Corporation, Brooklyn, N. Y.

MANY years ago such small items as screws, nuts and bolts were counted by hand at the time they were requisitioned from stock. Some one, perhaps now unknown, conceived the idea of counting such items with a scale, so that for a number of years in most industrial plants not only have screws, nuts and bolts been counted with the use of a scale, but so have larger items which are used in quantity in making assemblies. At the present time, if 5,000 screws are required for fifty assemblies, the matter of counting by the use of a scale requires very little effort and only a short period of time.

We have for a long while been racking our brains in order to find some way to do away with the almost countless requisitions for supplies that go into the factory. It requires a great deal of time and effort to handle the details of these thousands of requisitions, covering such supplies as files, drills and emery wheels. In the first place, the requisitions need to be drawn up and sent to the printer. Requisitions are usually made out in small departments by the foreman who is always pressed for time, and in the large departments by the foreman's clerk who is likewise pressed for time. They are then presented at the storeroom where the supplies are issued. Usually, the storekeeper dates and initials the requisitions after he has filled them. It is then necessary to post each of these requisitions individually. Next, the requisitions are sorted as to departments and totaled, and after all this has been done, the charges to the various departments are arrived at. It takes but a short time to go through this formality in writing about it, but it takes a great deal of time and effort to actually perform all that is required.

In order to eliminate such requisitions entirely, we have drawn up forms for certain classes of supplies and put them into use as outlined in the following paragraphs.

DEPT. _____ FILES REVISED TIMED FROM _____ TO _____

CUT	4" 00	4" 0	4" 1	4" 2	4" 3	6" 00	6" 0	6" 1	6" 2	6" 3	8" 00	8" 0	8" 1	8" 2	8" 3	6" 2nd Cut	6" Smooth	6" Dust	8" 2nd Cut	8" Smooth	8" Dust	10" 2nd Cut	10" Smooth	10" Dust	12" 2nd Cut	12" Smooth	12" Dust	15" 2nd Cut	15" Smooth	15" Dust
HAND	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
PILLAR	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60
PILLAR-NARROW	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90
PILLAR-EX. NARROW	91	92	93	94	95	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120
ROUND	121	122	123	124	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139	140	141	142	143	144	145	146	147	148	149	150
SQUARE	151	152	153	154	155	156	157	158	159	160	161	162	163	164	165	166	167	168	169	170	171	172	173	174	175	176	177	178	179	180
HALF ROUND	181	182	183	184	185	186	187	188	189	190	191	192	193	194	195	196	197	198	199	200	201	202	203	204	205	206	207	208	209	210
BARDING	211	212	213	214	215	216	217	218	219	220	221	222	223	224	225															
JOINT		SEE	BELOW				SEE	BELOW																						
THREE SQUARE	226	227	228	229	230	231	232	233	234	235	236	237	238	239	240	241	242	243	244	245	246	247	248	249	250	251	252	253	254	255
BARRETTE	256	257	258	259	260	261	262	263	264	265	266	267	268	269	270	271	272	273	274	275	276	277	278	279	280	281	282	283	284	285
KNIFE	286	287	288	289	290	291	292	293	294	295	296	297	298	299	300	301	302	303	304	305	306	307	308	309	310	311	312	313	314	315
MILL	316	317	318	319	320	321	322	323	324	325	326	327	328	329	330	331	332	333	334	335	336	337	338	339	340	341	342	343	344	345
FLAT																346	347	348	349	350	351	352	353	354	355	356	357	358	359	360
GAUGES	037	11	13	14	15	17	19	21	22	037	11	13	14	15	17	19	21	22												
	361	362	363	364	365	366	367	368	369	370	371	372	373	374	375	376	377	378												

THREE SQ. 3"-20 | BARDING 5"-20 | BARDING BACK 6" | BARDING CUTTING BACK 6"

NO.	NAME	CODE																												
		TOTALS																												
Total Cost		COST	$	$	$	$	$	$	$	$	$	$	$	$	$	$	$	$	$	$	$	$	$	$	$	$	$	$	$	$

EXHIBIT 1

Files

Exhibit 1 shows the form used for files. One copy, or more if necessary, is used for each department monthly. You will notice that the form provides for the department number or name, as the case may be. The form also provides for the date. If more than one copy of the form is required for a single department in a month, then the dates on the first copy would read "from January 1st to January 8th," the next would be "from January 8th to January 15th," and the next "from January 15th to January 31st." You will also notice that the requisition provides for various sizes of files (4 inch, 6 inch, etc.) and for the different cuts of these sizes that are carried in the storeroom. The various types of files are also shown. We found that in order to take care of all of the various kinds of files that we have in our storeroom and that are used in the factory, it became necessary to use a code number for each particular item. You will notice that the joint files are indicated below under "Gauges," and underneath the "Gauges" are shown the code number.

All that is required in using this files requisition is for the employee to present himself at the storeroom window, enter his factory number and sign his name on the form for his department, and then ask for the number of the particular files required. The small blocks opposite "Code" are used for code numbers. If the first employee of a particular department during the month appearing at the window asks for a 6-inch, #1-cut hand file, a code number is entered for this particular file, which you will notice is Code #8. Thus, the first column after the word "Code" becomes the "#8-Code" column. On the first line, therefore, if the particular employee asks for three of these files, there would be entered "3" in the "#8-Code" column. Should any other employees from the same department ask for the same kind of file during the month, the number of files asked for would appear in the same column.

As employees ask for different kinds of files, the next columns are used. In case more kinds of files are asked for during the period than there are columns, a second copy of the form is used. It is a very simple matter at the end of the month to add up the columns to determine the number of each kind of file used and then cost them.

Dept. Drills Requisitioned Date: From ..... to .....

High Speed Steel Drills

L = Long Shank

		Number Sizes																											
	Code	1	2	3	4	5	6	7	8	9	10	11	12	13	14	1/4	15	16	17	18	19	20	21	22	23	24	25	26	27
	Code	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	
	Code	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82

	Center Drills					Letter Sizes													Decimal Sizes										
	A-1	C-2	B-1	E-2	F-1	A	B	C	D	E	F	G	H	I	J	K	L	M	.382	.386	7/32	.295	.316	.323	.332	.339	.348	.358	.368
Code	91	94	96	98	100	90	92	93	95	97	99	101	102	103	104	105	106	107	121	122	123	124	125	126	127				
						N	O	P	Q	R	S	T	U	V	W	X	Y	Z											
Code						108	109	110	111	112	113	114	115	116	117	118	119	120											

T = Tapered Shank

	Fractional Sizes																												
	1/64	1/32	3/64	1/16	5/64	3/32	7/64	1/8	9/64	5/32	11/64	3/16	13/64	7/32	15/64	1/4	17/64	9/32	19/64	5/16	21/64	11/32	23/64	3/8	25/64	13/32	27/64	7/16	29/64
Code	130	131	132	133	134	135	136	137	138	139	140	141	142	143	144	145	146	147	148	149	150	151	152	153	154	155	156	157	158
	15/32	31/64	1/2	33/64	17/32	35/64	9/16	37/64	19/32	39/64	5/8	41/64	21/32	43/64	11/16	45/64	23/32	47/64	3/4	49/64	25/32	51/64	13/16	53/64	27/32	55/64	7/8	57/64	29/32
Code	159	160	161	162	163	164	165	166	167	168	169	170	171	172	173	174	175	176	177	178	179	180	181	182	183	184	185	186	187
	59/64	15/16	61/64	31/32	63/64	1																							
Code	188	189	190	191	192	193	194	195	196	197	198	199	200	201	202	203	204												

Carbon Steel Drills & Drills for Brass

B = Drill for Brass

	Number Sizes																												
	1	2	1/2	3	3/3	4	5	6	7	8	9	9/9	10	11	12	12/12	13	14	14/14	15	16	17	17/17	18	18	19/19	20	21	21/21	22
Code	231	232	233	234	235	236	237	238	239	240	241	242	243	244	245	246	247	248	249	250	251	252	253	254	255	256	257	258	259	260
	23	23/23	24	25	25/25	26	27	27/27	28	29	30	30/30	31	31/31	32	33	34	35	36	37	38	39	40	41	42	42/42	43	44	45	46
Code	261	262	263	264	265	266	267	268	269	270	271	272	273	274	275	276	277	278	279	280	281	282	283	284	285	286	287	288	289	290
	47	48	49	50	51	52	52/52	53	53/53	54	55	56	56/56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73
Code	291	292	293	294	295	296	297	298	299	300	301	302	303	304	305	306	307	308	309	310	311	312	313	314	315	316	317	318	319	320

No.	Name	Code																											
	Totals																												
	Cost																												

EXHIBIT 2

In this way, only one posting is required to the store ledgers for each kind of file used in each department and only one calculation is necessary.

The files are, as before, charged as factory expense to the various departments. The foreman can see from the data furnished him monthly the amounts charged to his department to cover the files requisitioned by his employees and in this way have a check on the number drawn from stores. The foreman may from time to time during the week or month inspect the files requisition for his department at the store's window.

Drills

Exhibit 2 shows the drills requisition form. The procedure for handling the drills requisitioned is similar to that of the handling of the files requisitioned.

We show on this requisition all the drills that may be used in the factory. You will notice that for the numbered drills we use the same code number as the number of the drill, except that for the long shank type we add an "L." Letter drills, fractional size drills, carbon drills and drills for brass, as well as center drills, have the code numbers appearing under the designated drill.

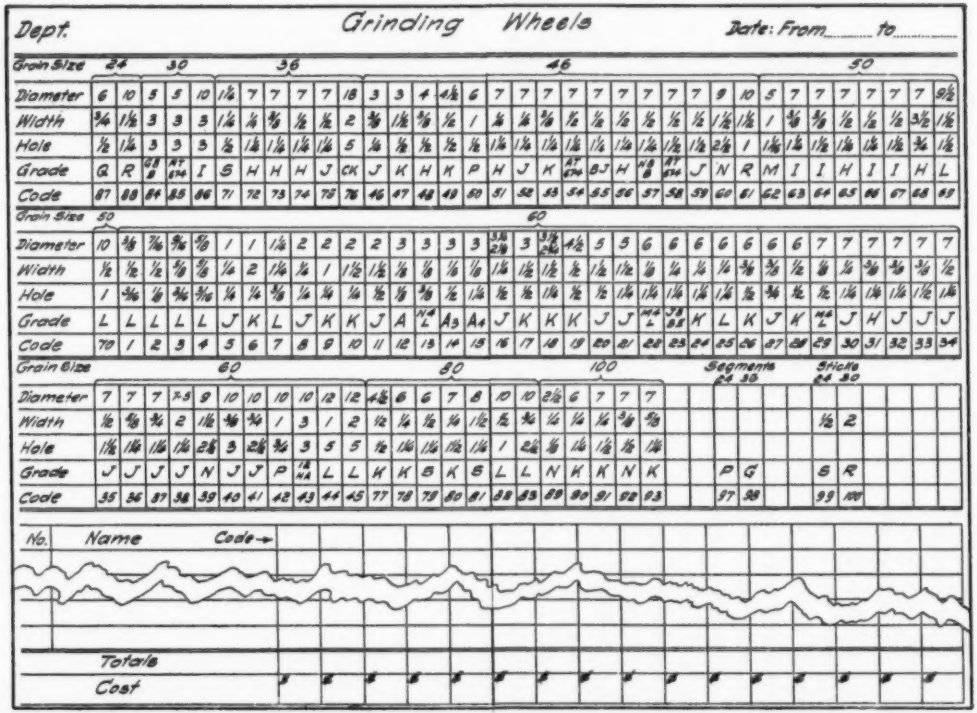
When the workman appears at the store window for drills, he goes through the same procedure as for files.

Grinding Wheel

Exhibit 3 shows the wheels requisition form. Here again we have made a description, in this case of wheels, and placed a code number under each description. Should a workman require a grinding wheel, he appears at the store window and goes through the procedure as heretofore outlined.

Cotton Waste

It is our intention to use a similar requisition for waste. In this case, we will have one column for each department. The workman presenting himself at the window will enter his number and his name and ask for the number of pounds of waste. The pounds of waste will then be entered in the column headed by his department number or letter, as the case may be.



Dept. Grinding Wheels Date: From ____ to ____

Grain Size	24	30	36	46	50
Diameter	6 10 5 5 10 1¼ 7 7 7 7 18 3 3 4 4½ 6	7 7 7 7 7 7 7 7 9 10	5 7 7 7 7 7 7 9½
Width	¾ 1½ 3 3 3 1¼ ⅛ ⅜ ½ ⅝ 2 ⅜ 1⅛ ⅜ ½ 1	⅛ ⅛ ⅜ ½ ½ ½ ½ ½ 1½ 1½	1 ⅛ ⅜ ½ ½ ½ 3½ 1½
Hole	½ 1¼ 3 3 3 ½ 1⅛ 1¼ 1¼ 1⅛ 5 ⅛ ⅛ ½ ½ 1⅛	1⅛ 1½ 1½ 1½ 1½ 2⅛ 1	1⅛ 1⅛ 1⅛ 1⅛ 1⅛ ¾ 1½
Grade	Q R GB 8 AT 574 I S H H H J CK J K H K P	H J K AT 574 BJ H HB 8 AT 574 J N R	M I I H I I H L
Code	87 88 84 85 86 71 72 73 74 75 76 46 47 48 49 50	51 52 53 54 55 56 57 58 59 60 61	62 63 64 65 66 67 68 69

Grain Size	50	60																																		
Diameter	10	5/8	7/8	5/8	5/8	1	1	1¼	2	2	2	2	3	3	3	3	3⅛ 2⅜	3	3½ 2⅜	4½	5	5	6	6	6	6	6	6	7	7	7	7	7	7		
Width	½	½	½	⅝	⅝	¼	2	1¼	¼	1	1½	1½	⅛	⅛	⅛	⅛	1⅛	1½	1½	½	1½	1½	⅛	¼	¼	¼	⅜	⅜	½	⅛	½	⅜	⅜	⅜	½	
Hole	1	3/16	⅛	¾	3/16	¼	¼	3/16	¼	¼	¼	½	⅛	3/16	½	1¼	½	½	1¼	½	½	1¼	1¼	1¼	1¼	1¼	1¼	½	3/16	½	½	1¼	1¼	1½	1⅝	
Grade	L	L	L	L	L	J	K	L	J	K	K	J	A	AL	A3	A4	J	K	K	K	J	J	HA L	JB 85	K	L	K	J	K	HA L	J	H	J	J	J		
Code	70	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	

Grain Size	60	80	100	Segments 24 30	Sticks 24 30
Diameter	7 7 7 X-5 9 10 10 10 10 12 12	4½ 6 6 7 8 10 10	2½ 6 7 7 7		
Width	½ ⅝ ¾ 2 1⅛ 3/16 ¾ 1 3 1 2	12 ¼ ½ ¼ 1½ ⅝ ⅜	½ ¼ ¼ 3/16 5/16		½ 2
Hole	1⅛ 1¼ 1⅛ 1⅛ 2⅝ 3 2⅝ ¾ 3 5 5	½ 1⅛ 1½ 1½ 1¼ 1 2¼	⅛ 1⅛ 1⅛ ⅛ 1⅛	P G	S R
Grade	J J J J N J J P TA 4A L L	K K B K S L L	N K K N K	97 98	99 100
Code	35 36 37 38 39 40 41 42 43 44 45	77 78 79 80 81 82 83	88 90 91 92 93		

No. Name Code →

Totals

Cost $ $ $ $ $ $ $ $ $ $ $ $ $ $ $ $ $ $

EXHIBIT 3

We will probably arrange next to have rags requisitioned in the same way as we intend to have waste requisitioned. We may also have nuts and bolts, washers, cotter pins, and other small items, which individually are of comparatively little value, requisitioned in quantities in a similar way and charged to factory expense as supplies instead of requisitioning the exact number required for an assembly production order and charging direct to the order as material, as we do now. The cost of these small items that may apparently be unaccounted for, will be more than offset by the time and effort saved.

Since all drills, files and grinding wheels are now controlled by code numbers, all the stock cards pertaining to these items are coded accordingly and filed according to their numerical sequence. This simplifies the procedure in locating a card that was heretofore involved.

This procedure has so simplified the locating of the stock cards for the requisitioned items that the most inexperienced clerk can now handle this work where an experienced clerk had to handle it before.